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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,885	08/04/2000	Zhengxiang Ma	11-10	1909
7590	10/19/2004		EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			MUNOZ, GUILLERMO	
P.O. BOX 8910			ART UNIT	PAPER NUMBER
RESTON, VA 20195			2637	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/631,885	MA ET AL.
	Examiner	Art Unit
	Guillermo Munoz	2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 02 August 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-7 and 32 is/are rejected.

7) Claim(s) 8-31 and 33-35 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 04 August 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Amendment, filed 02 August 2004, with respect to the rejection(s) of claim(s) 8-31 and 33-35 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

Applicant's arguments filed August 2004, with respect to rejection(s) of claim(s) 1-7, and 32 have been fully considered but they are not persuasive, the recitation "to be transmitted without using transmit diversity" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Upon further consideration, a new ground(s) of rejection of claims 1, 3-7, and 32 is made in view of Dabak (US Patent 6,724,828 B1) and Zhang et al. (6,754,872 B2).

Drawings

Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37

CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the concurrent sharing of the amplification of the at least first and second diversity-encoded signals and the second signal between at least two amplifiers must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 4, 7, 8-31, and 33-35 are objected to because of the following informalities:

Regarding claim 4, the symbol “_____” in line 6, appears to be a typographical error.

Regarding claim 7, the symbol “_____” in line 4, appears to be a typographical error.

Regarding claim 8, the phrase “sharing the amplification of the at least first and second diversity-encoded signals between at least two amplifiers” in lines 11-12, appears to indicate an additional amplification step of the at least first and second diversity-encoded signals prior to the step of forming at least a first composite signal and a second composite signal in line 5.

Examiner request direction to support for this step in the specification and figures.

Claims 9-17 inherit the limitations of claim 8 and are objected to for the reasons applied to claim 8.

Regarding claim 18, the phrase “and shares the amplification of the at least first and second diversity-encoded signals between the first and second amplifiers” in lines 13-14, appears to indicate a means for amplification within the second device in line 10. Examiner request direction to support for this limitation in the specification and figures.

Claims 19-23 inherit the limitations of claim 18 and are objected to for the reasons applied to claim 18.

Regarding claim 20, the claim status indicator (Currently Amended) appears to be a typographical error.

Regarding claim 24, the symbol “_____” in lines 5, 9, 11, and 13, appears to be a typographical error. Furthermore, the phrase “shares the amplification of the at least first and second diversity-encoded signals between the first and second amplifiers” in lines 16-17, appears

to indicate a means for amplification within the second device in line 13. Examiner request direction to support for this limitation in the specification and figures.

Claims 25-31 inherit the limitations of claim 24 and are objected to for the reasons applied to claim 24.

Regarding claim 33, the phrase “and for sharing the amplification of the at least first and second diversity-encoded signals between at least two amplifiers” in lines 16-17, appears to indicate an additional amplification step of the at least first and second diversity-encoded signals prior to the step of forming a phase-shifted first diversity-encoded signal and a phase-shifted second diversity-encoded signal in lines 5-6. Examiner request direction to support for this step in the specification and figures.

Regarding claim 34, the phrase “and for sharing the amplification of the at least first and second diversity-encoded signals between the first and second amplifiers” in lines 13-14, appears to indicate a means for amplification within the second hybrid combiner in line 11. Examiner request direction to support for this limitation in the specification and figures.

Regarding claim 35, the phrase “and for sharing the amplification of the at least first and second diversity-encoded signals between the first and second amplifiers” in lines 16-17, appears to indicate a means for amplification within the second hybrid combiner in line 14. Examiner request direction to support for this limitation in the specification and figures.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabak (US Patent 6,724,828 B1) in view of Zhang et al. (US Patent Number 6,754,872 B2).

Regarding claim 1, Dabak teach a method of switching between STTD and NON-DIVERSITY MODE which teach almost all the claimed subject matter in claim 1 as follows.

Dabak disclose a Space Time Transmit Diversity Encoder that receives a diversity signal from a mobile indicating that diversity is to be enabled or disabled, note Col.4, lines 10-13 and Fig. 4.

Dabak teach sharing transmission of diversity signals, represented by Symbols S_1 and S_2 in antenna paths ANT 1 and ANT 2, note figure 4A. Dabak further teach the symmetrical transmission under non-diversity is advantageous in maintaining a power amplifier balance between transmit antennas of the base station, note Col.4, lines 23-26. Furthmore, Dabak disclose maintaining power amplifier balance between the two transmit antenna paths, however, does explicitly state the sharing the amplification of the non-diversity signal between two amplifiers.

Zhang et al. teach a diversity transmission system having a plurality of antenna paths, note Fig. 2. Each the transmission paths includes a power amplifier, note elements 221 and 222 of figure 2.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to interpret Dabak's antenna path balancing in view of Zhang et al.'s teaching of including an amplifier for each antenna path, as sharing the amplification of the second signal, since Dabak suggest in Col.4, lines 23-26, that power balancing between the two transmission paths is required for non-diversity transmission.

Regarding claim 2, Dabak further teach the claimed subject matter, note Fig. 1, signal RI.

Regarding claim 3, Zhang et al. further teach the claimed subject matter in Fig. 2, elements 221 and 222.

Regarding claim 4, Dabak further teach the claimed subject matter, note composite signal S₁ and S₂ of antenna path ANT 1 and composite signal 0 and 0 of antenna path ANT 2 in figure 4B.

Regarding claim 5, Dabak does not explicitly state "performed in a digital domain", however, the functionality of the STTD encoder is the same.

Regarding claim 6, Dabak does not explicitly state "pre-distorting", however, the functionality of the Channel Encoder is the same, note Fig. 1, element 108.

Regarding claim 7, see claim 4.

Regarding claim 32, see claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Munoz whose telephone number is 571-272-3045. The examiner can normally be reached on Monday-Friday 8:30a.m-4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Barbara M
GM
October 9, 2004

Jean B. Corrielus
JEAN B. CORRIELUS
PRIMARY EXAMINER

10-18-04